

Minutes, 1/26/05 Tevatron BPM Upgrade Meeting
Stephen Wolbers

This set of minutes, and all future minutes, are or will be deposited in the Beams Document Database as document number 792.

The agenda as announced consisted of:

1. Report from Bob and Steve
2. Report from subproject leaders
3. Report from Jim Steimel
4. AOB

1. Report from Bob and Steve

- Steve showed Mike Martens' list for A3 validation/certification and we had a short discussion of the status of some of the items. More information about our plans can be found in Jim Steimel's report below.

2. Reports from L2 Managers

Tim Kasza:

- Echotek testing continues. See Beams docDB #1381-v17. Board testing continues with 47 boards left to test (out of 250). 4 boards (probably 5) have hardware failures and will be sent to Echotek for repair. The project has to decide on the impedance value of the synch input on the Echotek boards. At the moment it is thought that 5 boards have been modified. Tim will work on how to track the modification of the current boards and how to track the final change once we decide on what to do.

- 108 of 150 filter boards have been tested. 75 have passed all tests. The failed boards have been analyzed and will be described in Vince's report below.

- All timing boards are in hand. 21 passed testing (this is probably now 26). The failed boards are being debugged and repaired quickly.

Vince Pavlicek:

- Vince showed a histogram of the "average" phase value (beyond the 3 degree acceptance) of failed filter pairs. The distribution looks reasonable -- most are near 0 and there is a tail out to 7 or so. A discussion of how to test the effect of a phase mismatch on the position

gave some ideas of tests that will be tried in the future. The gain difference failures are apparently all close to the 0.15 dB spec.

- We discussed the outage of the AD network in FCC3 and how to schedule it to have minimal impact on the project. Vince will find out what the possible timescale is for the outage (how late this year can it be) and then we will have to talk about when to schedule it.

Brian Hendricks:

- The VME crate diagnostics at A3 is working. Bob West is busy putting the values into W25 and that should be available soon.

- Work is proceeding on getting the new BPM values into SDA. Aimin and Jean Slaughter are working to create the required SDA devices, etc. The data should be ready for them to read and use.

- Jim asked about how the TBT and first turn injection data can be viewed. Is it W68? Can Roger's program be used? Brian will look into it and make the necessary modifications.

Luciano Piccoli (reported by Rob Kutschke):

- The state device first turn injection capability is now working. We expect to collect data during the next shot setup.

- A plan has been agreed to get constants into the front-end to allow for pbar position calculation. This will be enabled soon.

- The remote reset of A3 works.

- A bad configuration of a channel of HA32 was found and fixed.

Rob Kutschke:

- Rob showed some interesting phase (I & Q) information from some of the data taken last week. There may be some timing problems that have to be resolved to sort this out.

- Rob also showed the resolution of the turn by turn measurement after dividing the data into 5 subsets. Each subset gives a slightly different position but the width of the distribution is the same (37 microns) in all cases.

3. Jim Steimel:

- Jim is devoting a large effort to enabling turn by turn and first turn on the B3 crate in the test stand. He has the pulse generator and arbitrary waveform generator that he needs

to properly simulate the beam structure. Getting the B3 setup working again took a large part of the previous afternoon and morning. For this reason Jim is asking that the project have a test stand coordinator and he recommends that Ken Treptow be that person. We agreed that Ken would be a good choice and that Jim should work with Ken and Vince and Bob Forster to decide what this means and what the project members need to know in order to make this effective.

- A new diagnostic mode was created for studying TBT. It will allow us to see TBT data without the receiver skip and will be available on W25 under "closed orbit short gate".

- The beam simulation on the test stand is not quite as clean as the real beam. Some understanding of how to correct for that difference will be needed to allow us to transfer what we learn on the test stand to A3.

- The priority right now for the project is to understand the TBT and first turn measurements in a well controlled environment and transferring that knowledge to A3 while we collect data. The goal is to gain confidence that the system is working properly and to get signoff from the Tevatron Department and to move on to B3, C3, D3, ...

- We very shortly discussed how we would proceed with our high rate installation into the 27 service buildings. We do not yet know whether we can only install between stores or whether some other arrangements can be made with accelerator operations.

4. AOB.

- No meeting Thursday January 27. There may be a meeting a week from Thursday (Feb 3) to discuss calibrations.